

The Emotionally Intelligent Officer? Exploring Decision-Making Style and Emotional Intelligence in Hostage and Crisis Negotiators and Non-Negotiator Trained Police Officers

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The Emotionally Intelligent Officer? Exploring Decision-Making Style and Emotional Intelligence in Hostage and Crisis Negotiators and Non-Negotiator Trained Police Officers

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Abstract

The research described in this article explores decision-making styles and levels of emotional intelligence displayed by police hostage and crisis negotiators in the United Kingdom. One hundred and seventeen negotiators from 21 police forces took part in the research and their data were compared with 118 non-negotiator trained police officers and 203 university students. Participants completed the General Decision-Making Style Questionnaire (Scott & Bruce, 1995) and the Emotional Intelligence Inventory (Gignac, 2007), with data analysed using multivariate analysis of covariance (MANCOVA) and t-tests. When controlling for the effects of age and social desirability, significant differences were found between both police samples and the student sample. All police officers displayed significantly lower levels of avoidant decision-making and significantly higher levels of overall emotional intelligence than students and these findings were also reflected within certain facets of emotional intelligence, specifically. These findings provide support for the existence of a unique 'police officer profile', but fail to support the premise of a distinct 'hostage and crisis negotiator profile' within the UK police population. The findings are discussed with relevance to the practice of hostage and crisis negotiation and future research directions.

Keywords: hostage and crisis negotiator, hostage and crisis negotiation, decision-making style, emotional intelligence, police officer selection

1.0. Introduction

Police hostage and crisis negotiators (HCNs) may encounter an infinite number of varying situations during the performance of their role, which may range from dealing with an individual who is in crisis to negotiating with someone who has taken a person, or persons hostage. There is accumulating evidence to suggest that negotiation is an effective police tool (McMains & Mullins, 2001; Regini, 2002) and that the use of negotiation can result in an increased likelihood of successful peaceful resolution of both hostage and crisis incidents (Flood, 2003). However, there is limited empirical research that identifies the characteristics and competencies of HCNs or the skills that are specifically linked to performance within this often complex role (Anonymised, 2015; Anonymised, 2016; Anonymised, 2017). Police HCNs need to be able to respond effectively and efficiently within a variety of stressful and often highly emotive environments and it is likely that several constructs/characteristics aid performance by either facilitating operational tasks associated with the role or helping to mitigate the stress experienced by HCNs while “in theatre”. Currently, it is unclear whether these characteristics are likely to be relevant to all serving police officers, or whether the competencies of effective HCNs differ to the rest of the non-negotiator-trained police community. The current research attempts to address this question by exploring whether officers that are trained as HCNs differ in relation to two constructs that tangentially and commonsensically, at least, have application to performance within the HCN role: decision-making style and emotional intelligence (EI).

HCNs have to make decisions dynamically and often with little time to prepare, ranging from carefully deciding which dialogue to utilise next, or which tool from the negotiator repertoire to employ within a conversation, to decisions regarding risk assessment of different parties involved in a hostage or crisis scenario (see Anonymous, 2016). Decision making is, therefore, at the forefront of any negotiation. The concept of EI, also has

relevance to the entire negotiation process, which is very much concerned with emotions. Understanding and appropriately reading a subject's emotions is a core tenet to negotiation, which is only further superseded by the HCN's ability to effectively manage said emotions, in conjunction with their own. Whilst identifying the decision-making styles and specific facets of EI that are linked to performance within HCNs is beyond the scope of the current study, the findings will help to provide insight into whether HCNs represent a unique subgroup within the police population, thereby providing a foundation on which to build further research which may have more specific implications for selection policies. Identification of a specific HCN profile could be used to inform future research to establish the competencies that are linked to and can predict HCN performance and this would enable police forces to perform targeted recruitment and enhance the selection of trainee HCNs. As such, the current paper presents an exploratory attempt to identify whether individual differences exist between negotiator-trained and non-negotiator trained police officers in relation to their decision-making style and levels of EI, with the intention of paving the way for future research and furthering the academic understanding of hostage and crisis negotiation.

1.1. Review of the Literature

1.1.1. Decision-making style. Scott and Bruce (1995, p. 820) described decision-making style as 'the learned, habitual response pattern exhibited by individuals when confronted with decision situations', suggesting that decision-making style is not a personality trait, but a habit based propensity to react in a certain way. The premise is that when encountered with a stressful situation, individuals are likely to respond in a fairly consistent habitual manner when deciding how to react to the situation, but that the style of decision-making adopted may also be context-dependent. Scott and Bruce (1995) developed a classification system for individual decision-making style that consists of five distinct styles that are not mutually exclusive (see also Thunholm, 2004). Individuals tend to utilise more

than one style and consistently display a primary and secondary decision-making style (Driver, Brosseau & Hunsaker, 1990). The five styles are described as 1) *Rational*: whereby logical and structured approaches to decision-making are employed; 2) *Intuitive*: whereby individuals rely upon hunches, feelings and impressions when making decisions; 3) *Dependent*: which relies upon the direction and support of others; 4) *Avoidant*: whereby decision-making tends to be postponed or avoided; and 5) *Spontaneous*: which is exemplified by impulsive and ‘spur of the moment’ decisions (Scott & Bruce, 1995).

The style of decision-making adopted by individuals is likely to contribute to performance/success within any occupational role and researchers have identified that certain decision-making styles are more effective than others (Anderson, 2000; Russ, McNeilly & Comer, 2001; Nutt, 1990; Sadler-Smith, 2004). For example, rational decision-making styles have been found to be positively correlated, and avoidant styles negatively correlated, with assessments of managerial performance (Russ et al., 2001). Other researchers have linked the intuitive decision-making style to performance within business settings (Anderson, 2000; Sadler-Smith, 2004). However, although decision-making ability has been demonstrated to constitute a vital skill within the business and managerial context (Barnard, 1938; Simon, 1947, 1960 cited in Russ et al., 2001; Taylor, 1965 cited in Russ et al., 2001; Ivancevich, Szilagyi and Wallace, 1977), there is very limited research that has been conducted to assess this construct within law enforcement or emergency services personnel. In light of the ‘high stakes’ scenarios that HCNs typically encounter, it seems prudent to suggest that decision-making style is likely to play a role in performance within such settings (i.e. a negotiator who is dealing with a hostage situation that may be bound by time-specific deadlines is unlikely to perform well if they display a primarily avoidant decision-making style).

The limited research which has been conducted focusing on the role of decision-making style within such personnel has tended to be linked to the physiological stress

response. Research by Thunholme (2008) conducted with Swedish army officers indicates that individuals who utilise certain decision-making styles are more likely to respond negatively to stress and exhibit higher stress responses in certain situations, particularly those involving military or operational decision-making. Thunholme found that the avoidant decision-making style correlated significantly with higher levels of cortisol release during test sessions, indicating that individuals utilising this style experienced a higher level of negative stress when asked to make decisions under test conditions. This finding has implications for individuals working within highly stressful situations, as it implies that certain decision-making styles may be related to more effective coping. To date, there is no empirical research that explores decision-making styles among police officer populations and as such, it is unclear whether decision-making style is a construct which bears relevance to policing, or more specifically whether it plays a role in specialist police activities, such as that of hostage and crisis negotiation.

1.1.2. Emotional intelligence. Salovey and Mayer (1990, p. 189) define EI as ‘the ability to monitor one’s own and others’ emotions, to discriminate among them and to use the information to guide one’s thinking and actions’, whereas, Bar-On (1997, p. 16) defines EI as ‘an array of non-cognitive capabilities, competencies and skills that influence one’s ability to succeed in coping with environmental demands and pressures’. There are a number of different models of EI; probably the most widely accepted model is that of Salovey & Mayer (1990) who divided EI into four dimensions and proposed that these dimensions exist sequentially (Mayer, Salovey, Caruso & Sitarenios, 2001). These four dimensions can be summarised as: The *perception of emotion*, the *integration and assimilation of emotion*, *knowledge about emotions* and *management of emotions* (George, 2000; Mayer, Salovey & Caruso, 1999). The first stage refers to the accuracy with which a person can identify emotions in themselves and others; the second refers to the process whereby an individual

uses or assimilates emotions to facilitate thought (i.e., the use of emotions to guide thinking); the third refers to an individual's understanding of how his/her emotions change; and the final stage refers to the management of one's own mood and emotions along with the emotions of others. The construct of EI has been suggested to play a vital but multifaceted role in aspects of life including work, health and happiness and research indicates that individuals who are higher in EI, tend to be more successful in their careers, have higher levels of general life satisfaction and are healthier (Grewal, 2005). It is clear, therefore, that EI is a salient construct within the human psyche and one that contributes positively to individual success and satisfaction in a number of domains.

There is a vast amount of psychological research focused specifically on the role of EI in occupational settings, with respect to both work-place performance/success and academic performance (Nowicki & Duke, 1992; Shoda, Mischel & Peake, 1990; Van Rooy & Viswesvaran, 2004). Some researchers have even gone so far as to suggest that EI is a more important predictor of work-place performance/success than IQ (Bar-On, 1997; Goleman, 1995; Dulewicz, Higgs & Slaski, 2003); and EI has been consistently and empirically linked to both occupational performance and success (Carmeli & Josman, 2006; Christiansen, Janovics & Siers, 2010; Cote & Miners, 2006; Goleman, 1995; Lam & Kirby, 2002; Law, Wong & Song, 2004; Semadar, Robins & Ferris, 2006; Sy, Tram & O'Hara, 2006).

EI has also been conceptualised as a protective factor in terms of resilience to negative life events and is thought to buffer the effects of aversive events on mental health (Ciarrochi, Forgas & Mayer, 2001). A relationship between EI and resilience has been demonstrated, with Armstrong, Galligan and Critchley's (2011) findings demonstrating that high scores on all four dimensions of EI successfully predict higher levels of resilience in a general population sample of 414 participants from across the world (including the USA, Australia, the UK and Canada). Emotionally intelligent behaviour has been suggested to be

particularly adaptive when individuals are confronted by stressful situations (Armstrong et al., 2011) and Salovey, Bedell, Detweiler and Mayer (1999, p. 161) have proposed that individuals with higher levels of EI cope better with the emotional demands of stressful encounters as a result of their abilities to 'accurately perceive and appraise their emotions, know how and when to express their feelings, and effectively regulate their mood states'.

Research also indicates that EI may influence the performance of individuals within specific occupational roles (Bar-On et al., 2000). Bar-On et al., (2000) investigated the differences in EI between two distinct occupational groups in Germany, both of which suffered high levels of occupational stress: Police officers and paraprofessional personnel in mental health and child care professions. They found that police officers scored significantly higher than either of the care worker practitioner groups on most of the primary measures of EI, suggesting that the abilities of police officers to be emotionally more aware of themselves and of others makes them more adaptable to stressful events and equips them with more efficient/effective coping strategies. Due to the stress that is likely to be experienced by HCNs when dealing with hostage and/or crisis situations, it seems prudent to suggest that high levels of EI would not only serve to facilitate their negotiating skills, but also to enhance their resilience and protect them from the adverse effects of the stresses experienced as a result of negotiation deployments.

It is clear that EI contributes positively to individual success within a variety of settings, however, research has also implicated the role of EI within team/group performance (Quoidbach & Hansenne, 2009; Jordan & Troth, 2004; Jordan & Lawrence, 2009; Stough, Saklofske & Parker, 2009). This suggests that the ability to identify and regulate your own and others' emotions is a skill that works to positively enhance the performance of a number of individuals within a team. This also has implications for HCNs who exist as part of a cadre and typically work within a team format (i.e. the negotiation cell). The ability,

therefore, to effectively manage the emotions of the parties involved (including that of the hostage taker/individual in crisis and secondary negotiator) is consequently proposed to constitute a vital part of hostage and crisis negotiation and highlights the potential importance of the EI construct within such settings.

Although there is a plethora of research studies where the role of EI in a number of occupational settings has been investigated, the empirical research focused on police settings is limited. However, the idea of EI as a contributing factor within police organisations is gaining momentum, and those researchers that have measured EI within police officers have demonstrated positive findings that promote the benefits of EI within law enforcement settings (Afolabi, Awosola & Omole, 2010; Al Ali, Garner & Magadley, 2012; Aremu & Tejumola, 2008; Daus, Rubin, Smith & Cage, 2004 as cited in Al Ali et al., 2012; Lev, 2005). Al Ali et al., (2012), Afolabi et al., (2010) and Lev (2005), for example, all found a positive correlation between EI and police officer performance within their samples of police officers in the United Arab Emirates, Nigeria and Israel, respectively. Furthermore, there is strong evidence to indicate that EI is particularly beneficial within occupations that involve regular interpersonal contact with people, particularly where such contacts are the basis for effectiveness (Caruso, Bienn & Kornacki, 2006). This criteria is congruent with the majority of police officer roles, particularly that of HCNs, who spend the vast majority of their time communicating and interacting with hostage takers or individuals in crisis.

In addition to the small cluster of studies that support a link between EI and police performance, there are a number of specific facets of EI that would appear logically to be associated with, and particularly pertinent to, the role of hostage/crisis negotiation. The first relates to the concepts of appraisal and expression of emotion, which are described by Mayer and Salovey (1997) as the ability to recognise emotion in other people's facial and postural expressions and the ability to recognise honest and dishonest expressions of emotions. These

abilities are particularly relevant to the hostage/crisis negotiation situation, as the ability to accurately detect an individual's emotional state is vital for consistent communication (Al Ali et al., 2011) and therefore, the negotiator's ability to draw upon these skills may facilitate the negotiation process and enhance the likelihood of a successful and peaceful resolution. The concept of empathy also falls within this facet of EI and relates to the ability to demonstrate an awareness of other people's feelings, concerns and needs (Gardner, 2005). Empathy is considered to be one of the main underpinning processes within the hostage/crisis negotiation context and it is specified as a key component within the Behavioural Change Stairway Model developed by the Crisis Negotiation Unit of the Federal Bureau of Investigation (CNU/FBI) (BCSM; Vecchi, Van Hasselt & Romano, 2005) and the adapted version of the BCSM, the Behavioural Influence Stairway Model (BISM: Van Hasselt, Romano & Vecchi, 2008; Vecchi et al., 2005; Vecchi, 2007) utilised by HCNs worldwide. The ability to display empathy in this context forms a key component of active listening that is used to help create a relationship between the negotiator and individual in crisis or hostage taker. This process has parallels with the therapeutic alliance observed within the psychotherapeutic context (Grubb, 2010) and is thought to play a vital role within the successful resolution of negotiation incidents. The second facet of EI that would appear to be particularly relevant to hostage/crisis negotiation is that of emotion regulation. Cherniss (2000) demonstrated that enhancement of EI skills within police officers, as a result of training to effectively manage emotions, has positive outcomes in terms of helping regulate individual's reactions and those of others, particularly in conflict, dangerous and difficult situations.

To date, there is no specific published academic research that focuses on the role of EI within hostage or crisis negotiation; however, the construct has been implicated within the more generic negotiation literature (Barry, Fulmer & Van Kleef, 2004; Fulmer & Barry, 2004; Thompson, Nadler & Kim, 1999) and has more recently been applied to the concept of

international negotiation (see Caruso, 2015). Fulmer and Barry (2004), for example, suggested that the benefits from EI in other occupational and academic contexts are likely to extrapolate to negotiation contexts by providing greater sensitivity to emotional cues, minimising the negative effects of emotion on decision-making and facilitating the implementation of emotion-based tactics in negotiation. They proposed that EI is a vital concept within the negotiation process as emotional expression is a pervasive tool within human communication. Researchers have identified that aspects of EI, such as negotiator's emotional expression (verbal or non-verbal) assist in providing important informational cues that help to propel the negotiation through its various phases (initiation, influence, problem solving and conclusion) (Morris & Keltner, 2000 as cited in Fulmer & Barry, 2004). Caruso (2015) suggests that emotionally intelligent negotiators are more likely to: 1) demonstrate accurate self- and other-awareness of emotions, 2) connect emotionally with others and match the mood to the task, 3) utilise excellent emotion vocabulary and conduct accurate affective forecasting, and 4) stay focused and calm and keep other parties calm. On the basis of extrapolation of these findings, it is, therefore, prudent to suggest that EI is an important element within hostage and crisis negotiation, due to the nature of the highly emotive situations that typically require the expertise of police HCNs and the need for HCNs to manage both their own and others' emotions effectively.

2.0. Aims, Objectives and Hypotheses

The main aim of the current study is to compare police HCNs with non-negotiator trained police officers and a non-police sample of students to identify the decision-making styles and levels of EI demonstrated by police HCNs in the United Kingdom. This will help to establish whether HCNs are more likely to utilise certain types of decision-making styles or display higher levels of EI than the comparative groups. Whilst decision-making style has been linked to performance within a number of occupational roles and a lower stress response

in certain environmental conditions, there is no published research that identifies whether police officers (or those performing certain police roles) employ certain decision-making styles more than others when compared to a non-police population. The authors speculate that certain types of decision-making style may serve to be more beneficial for those deployed as HCNs by enabling them to cope more effectively with role-related stress, and the current study aims to identify whether such differences exist. Alternatively, research evidence has successfully implicated the importance of EI within police work and extrapolation of this evidence suggests that EI is a vital skill for police HCNs, with particular reference to the elements of appraisal/expression of emotion and regulation of other people's emotions. The authors, therefore, propose that the abilities to identify and modulate both their own and other people's emotions are skills that are vital to de-escalating crisis and hostage situations and that these skills, in particular, may differentiate HCNs from non-negotiator trained officers. As such, the following hypotheses were tested within the current study: 1) There will be a significant difference between the decision-making styles employed by HCNs, police officers and students. 2a) HCNs will score significantly higher on measures of EI than police officers and students. 2b) Police officers will score significantly higher on measures of EI than students. 2c) HCNs will score significantly higher than both police officers and students on measures of EI that specifically involve the identification and regulation of other people's emotions (i.e., the *Emotional Awareness of Others* (EAO) EI subscale and the *Emotional Management of Others* (EMO) EI subscale).

3.0. Method

3.1. Design

The current study utilised a cross-sectional survey design whereby data were collected in the form of a psychometric test battery. The battery consisted of six pre-validated scales measuring the following constructs: a) *Personality*, b) *Coping Style*, c) *Cognitive Emotion*

Regulation, d) *Decision-Making Style*, e) *Emotional Intelligence (EI)* and f) *Social Desirability*. Constructs d and e were considered as dependent variables within the current paper and the independent variable was group membership with three levels (HCN; Police Officer; Student). Age and social desirability were included as covariates within the analysis to control for potential confounding effects.. Please refer to [Anonymised for peer review purposes, 2015] for results relating to a, b and c.

3.2. Participants

The *HCN Sample* consisted of 117 (77% Male; 23% Female) HCNs from 21 UK police forces with a mean age of 43 years ($SD = 6.1$) and an age range of 29-61. The vast majority of participants ($n = 115$; 98%) were White British, 1 (1%) participant was Other White and 1 (1%) was Pakistani. Participants' lengths of service within the police ranged from 30-400 months, with a mean of 244 months ($SD = 76.7$) and their lengths of service as HCNs ranged from 0 to 192 months, with a mean of 64 months ($SD = 45.5$). The number of incidents dealt with as a HCN ranged from 0-300, with a mean of 43 ($SD = 52.0$).

The *Police Officer Sample* consisted of 118 (63% Male; 37% Female) officers from 21 UK police forces with a mean age of 41 years ($SD = 7.5$) and an age range of 21–57 years. All 118 (100%) participants were White British. Participants' lengths of service within the police ranged from 28-480 months, with a mean of 182 months ($SD = 92.6$).

The *Student Sample* consisted of 203 (45% Male; 55% Female) undergraduate and postgraduate students from [Anonymised for peer review purposes] University, with a mean age of 22 years ($SD = 5.9$) and an age range of 18–50 years. The majority of participants were White British ($n = 124$; 61%) and the remainder of the sample consisted of students from a variety of different ethnicities: Other White ($n = 18$; 9%); Indian ($n = 19$; 9%); Pakistani ($n = 12$; 6%); Bangladeshi ($n = 1$; 1%); Other Asian ($n = 1$; 1%); Black African ($n = 14$; 7%), Other Black ($n = 3$; 2%), Chinese ($n = 1$; 1%); Other Ethnicity ($n = 10$; 5%).

3.3. Measures

3.3.1. Demographic Questionnaire. Participants completed a brief demographic questionnaire that was sample specific and contained questions relating to personal characteristics, work history within the police or course of study. Demographic questions included: *age, gender, nationality, ethnicity, course and year of study, force, rank, length of service as an officer, length of service as a negotiator and number of incidents dealt with as a negotiator.*

3.3.2. The General Decision-Making Style Questionnaire (GDMS; Scott & Bruce, 1995) is used to classify individuals as having one of five independent decision-making styles: *rational* (logical and structured approaches to decision-making); *avoidant* (postponing or avoiding making decisions); *intuitive* (reliance upon hunches, feelings and impressions); *dependent* (reliance upon the direction and support of others); or *spontaneous* (impulsive and prone to making ‘snap’ or ‘spur of the moment’ decisions). It consists of 25 items, scored on a five-point Likert-type scale ranging from 1 = *Strongly Disagree* to 5 = *Strongly Agree*, with five items identified for each decision-making style. Each decision-making style can obtain a maximum of 25 and a minimum of 0 and the highest score from each of the subscales is used to classify participants in terms of their decision-making style. The scales of the GDMS have been shown to be reliable with a range of samples, with reported Cronbach’s alphas ranging from: .77-.85 for the Rational Scale; .78-.84 for the Intuitive Scale; .62-.86 for the Dependent Scale; .84-.94 for the Avoidant Scale and .83-.87 for the Spontaneous Scale (Loo, 2000; Scott & Bruce, 1995). Please refer to Table I for subscale alphas obtained for the current study.

3.3.3. The Genos Emotional Intelligence Inventory - Full Version (EII; Gignac, 2007) consists of 70 items designed to measure the frequency with which an individual displays emotionally intelligent behaviours across seven dimensions. The items are scored on

a five-point Likert scale, from 1 = *Almost Never* to 5 = *Almost Always*. The EII provides a *Total Emotional Intelligence* (Total EI) score, along with seven EI sub-scale scores that measure the demonstration of EI skills across the following seven different dimensions: *Emotional Self-Awareness* (ESA); *Emotional Expression* (EE); *Emotional Awareness of Others* (EAO); *Emotional Reasoning* (ER); *Emotional Self-Management* (ESM); *Emotional Management of Others* (EMO); and *Emotional Self-Control* (ESC). The Total EI score is based on an equally weighted composite of the seven EI dimensions defined above, and therefore, represents the frequency with which an individual engages in a diverse variety of emotionally intelligent behaviours relevant to the identification and management of their own and others' emotions. The Genos EII demonstrates a high level of internal consistency with the overall EII scale displaying a Cronbach's alpha score of greater than .90 across a variety of nationalities and the subscale scores also demonstrating respectable levels of internal consistency, with alphas ranging from .71-.85 (Gignac, 2007). Please refer to Table I for the subscale alphas obtained for the current study.

3.3.4. The Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1988) consists of 40 items that are scored on a Likert scale of 1 = *Not True* to 7 = *Very True*. Respondents are asked to rate the items according to their level of agreement with the item and one point is added for each extreme response of 6 or 7. The BIDR is used to measure two constructs: *Self-Deceptive Positivity* (the tendency to give self-reports that are believed but have a positivity bias) and *Impression Management* (deliberate self-presentation to an audience). The scores from items 1-20 (with even items reversed) are summed to create a self-deceptive positivity scale score; the scores from items 21-40 (with odd items reversed) are summed to create an impression management scale score and all items are summed (with appropriate scores reversed) to create an overall social desirability score. The BIDR reports good levels of internal consistency: .83 for the total measure; .68-.80 for the self-deceptive

positivity scale and .75-.86 for the impression management scale (Paulhus, 1988) and the Cronbach's alpha obtained for the current sample was .81 (.71 for the self-deceptive positivity subscale; .79 for the impression management subscale), demonstrating an adequate level of internal consistency. The overall BIDR score was used as a covariate within the analysis to control for socially desirable responding within the sample.

3.4. Procedure

Ethical approval for the research was obtained from the [Anonymised] University Research Ethics Committee. Permission to take part in the research was provided by the Assistant Chief Constable (ACC) or Force Lead Hostage Negotiator Coordinator (HNC) for each police force. All participants were provided with a participant information sheet and were asked to sign a consent form prior to taking part. HNCs for each force were provided with a set of questionnaires that were disseminated to HCNs to complete either at one of their quarterly meetings or within their own time. Each negotiator was also provided with a second questionnaire to disseminate to a non-negotiator police officer colleague to complete. Student participants were recruited mainly via a research participation scheme whereby psychology students are allocated research credits for taking part in research studies. All questionnaires were completed in paper format and all participants were provided with a debrief sheet at the end of the questionnaire. Statistical analyses were conducted using SPSS software and included the use of descriptive statistics, multivariate analysis of covariance (MANCOVA), and t-tests.

4.0. Results

The data were screened and parametric assumptions were tested prior to analysis taking place. Any violated assumptions were considered to be successfully counteracted by the large sample size ($N = 438$), the number of participants in each cell exceeding 30 and the robust nature of the MANOVA test (see Field, 2009; Pallant, 2009). Effect sizes were

calculated using the guidelines proposed by Cohen (1988, p. 22) and are indicated by the terms small, medium or large in brackets after the partial eta squared figure (η^2) and the letters “S”, “M” and “L” in the tables.

4.1. Decision-Making Style

To investigate the influence of group membership on decision-making style, a three (group: HCN, police office & student) way between groups MANCOVA was performed using the five decision-making style subscales as dependent variables (please refer to Table I for means, standard deviations, F values and effect sizes). A main effect of group was observed on the combined dependent variables, $F(10, 858) = 2.19, p = .017; V = 0.05$; partial $\eta^2 = .03$ (small) indicating a significant difference between the decision-making style subscale scores obtained for each group. Univariate ANOVAs (using a Bonferroni adjusted alpha level of $p < .01$) revealed significant differences for the *avoidant* decision-making style, with separate post hoc analyses (Tukey HSD) revealing that both HCNs and police officers scored significantly lower than students on this style of decision-making. This finding provides partial support for Hypothesis 1 by providing evidence that both police samples utilise avoidant decision making significantly less than the non-police comparison group. No statistically significant differences were observed between HCNs and police officers on any of the subscales.

[Insert Table I here]

4.2. Emotional Intelligence

To investigate the influence of group membership on EI, a three (group: hostage and crisis negotiator, police office & student) way between groups MANCOVA was performed utilising the eight EII subscales as dependent variables. A statistically significant difference was observed between the three groups on the combined dependent variables, $F(14, 816) = 2.05, p = .012; V = 0.07$; partial $\eta^2 = .03$ (small) (please refer to Table II for details of means,

standard deviations, F values and effect sizes). Separate univariate ANOVAs (using a Bonferroni adjusted alpha level of $p < .006$) revealed significant differences for six of the EI variables. Separate post hoc analyses (Tukey HSD) revealed that both police samples scored significantly higher than students on the *Emotional Self-Management*, *Emotional Management of Others*, *Emotional Self-Control*, and *Overall Emotional Intelligence* subscales. The police officer sample also scored significantly higher on the *Emotional Self-Awareness* subscale than students and the HCN sample scored significantly higher than students on the *Emotional Reasoning* subscale, providing support for Hypotheses 2a and 2b. No statistically significant differences were observed between any of the mean sub-scale scores for HCNs and police officers, thereby leading to the rejection of Hypothesis 2c.

[Insert Table II here]

4.3. Comparisons with Norm Group Data

One way independent sample t-tests (utilising appropriate Bonferroni adjusted alpha levels) were performed in order to compare the norm data means with those obtained from the three samples in order to triangulate the findings (please see Table I and II for t-test and significance values). The findings revealed that the police sample means were significantly different to the norm data means in four of the five GDMS subscales and that the student sample means were remarkably similar to those provided by the norm dataset (significant differences were observed between student and norm data mean scores on one of the five subscales). This suggests that the police samples do in fact differ from the general population in regards to their decision-making styles and this further supports the differences observed within this study. The findings also support the assertion that the student sample provides a fairly representative comparison group when comparing decision-making style in light of the similar subscale scores obtained on the GDMS. With regards to EI, however, the t-tests revealed a lack of significant differences between the mean scores obtained for the majority

of the EII subscales and those reported for the norm dataset (one out of eight for both police officer samples) and significant differences between all of the student mean subscale scores and the norm dataset scores. This suggests that while statistically significant differences were observed between the police samples and students in this case, the findings are limited to some extent by the fact that these differences were not reflected/corroborated by comparisons with the norm data utilised to validate the scale.

4.4. Correlational Analyses

[Insert Table III here]

Inter-correlations were assessed between each of the GDMS and EII subscales for the three samples (please refer to Table III). The correlation matrices revealed several significant relationships between variables, with the strongest relationships being observed between the avoidant and rational decision-making styles and numerous facets of the EII. When synthesising these correlational findings, they suggest that the avoidant decision-making style is significantly and strongly negatively correlated with overall EI within all three samples. The other EI facets also negatively correlate significantly with the avoidant decision-making style in varying permutations across the three samples, suggesting that participants who display an avoidant decision-making style are less likely to engage in emotionally intelligence behaviours within the workplace. On the other hand, the rational decision-making style is significantly positively correlated with overall EI within all three samples, suggesting that participants who display a rational decision-making style are more likely to engage in emotionally intelligent behaviours. A slightly different pattern was observed in relation to the HCN sample, whereby a smaller number of significant correlations were observed between the variables in comparison to the other two samples (please refer to Figure I). Whilst the findings depict a similar general pattern in relation to the correlations for the HCN and police officer samples, some differences are evident. For example, in the police

officer sample, the spontaneous decision-making style was negatively correlated with EE, the rational decision-making style was positively correlated with more EI facets, and the avoidant decision-making style was correlated negatively with more EI facets. These findings suggest that whilst there were no significant differences between the HCN and police officer sample scores on each subscale, there may be differences in relation to the manifested constellations of these variables and how decision-making style and EI may interact within the two police officer samples.

[Insert Figure I here]

5.0. Discussion

The results demonstrate firstly that HCNs and police officers utilise different decision-making styles to students and secondly that they employ emotionally intelligent behaviours more frequently than students. As such, they provide evidence to suggest that police officers, as a whole, possess traits that differentiate them from the general population in relation to decision-making style and EI. However, the findings have failed to discriminate HCNs from non-negotiator trained officers and therefore, do not support the concept of a unique 'HCN profile'. The results of the current study, therefore, suggest that police HCNs possess similar traits and characteristics to the wider police population when considering decision-making style and EI.

The findings relating to decision-making indicate that all three groups utilise the rational decision-making style as their primary style and the intuitive decision-making style as their secondary style, suggesting that these two styles are the most commonly utilised (a finding corroborated by the norm data provided by Spicer & Sadler-Smith, 2005). This finding is reassuring as it indicates that all three groups tend to utilise those decision-making styles that are positively correlated with performance in academic and occupational settings (i.e., rational and intuitive styles) (Anderson, 2000; Russ et al., 2001; Sadler-Smith, 2004).

Despite the lack of observed significant differences between HCNs and police officers on their utilisation of the five decision-making styles; there were, however, differences between both police samples and the student sample that clearly differentiate the groups and provide evidence of a unique 'police officer profile'. Both police samples report utilising the avoidant decision-making style to a significantly lesser degree than students, thereby suggesting that police officers are less likely to avoid or evade decision making. These findings are commonsensical when applied to police settings, as despite the rank structure, police officers often attend incidents that require immediate action and they are unable to avoid making decisions if they want to perform effectively within their role. There is no doubt that operational policing is a role that requires non-avoidant and reactive decision-making, in order to apprehend perpetrators and protect victims of crime, so these findings appear logical in this sense.

The findings relating to the relatively lower utilisation of the avoidant decision-making style by both police samples is particularly pertinent, when considered in combination with the previous literature relating to decision-making styles and the physiological management of stress. Thunholme's (2008) findings demonstrated the negative effects of avoidant decision-making within military officers, whereby those utilising avoidant styles were more likely to respond negatively to stress and experience higher stress responses (as measured by increased release of cortisol). It is, therefore, reassuring that police officers within the UK are utilising decision-making styles that are less positively correlated with negative stress responses and cortisol release. The lack of significant differences between HCN and non-negotiator officers, in terms of avoidant decision-making style is of particular interest, however, when considering the nature of the HCN role. Avoidant behaviour or decision-making in this context is likely to result in potentially fatal consequences and, therefore, needs to be circumvented by individuals in the HCN role. The findings suggest

that decision-making style could be targeted as a training need to enhance the utilisation of more effective decision-making styles and to further reduce the likelihood of avoidant decision-making within police HCNs. Decisiveness (i.e., the opposite of avoidance) has also previously been identified as a key characteristic within American HCNs (Allen, Fraser & Inwald, 1991), which indicates the importance of decisive decision-making within the HCN role and provides further support for training or enhancement work focusing on decision-making style and processes within UK-based HCN teams.

In addition to this, it is important to acknowledge the fact that the current findings provide insight into the traits of these samples from a non-context dependent setting (i.e. demonstrate their general styles of decision-making), as opposed to the styles specifically adopted by participants when exposed to a specific situation. *Ergo*, the findings fail to identify the specific decision-making styles adopted by HCNs when responding to a hostage or crisis situation, and as such, may not provide an entirely representative picture of whether HCNs differ in relation to non-negotiator trained officers. It could be the case, for example, that HCNs utilise different decision-making styles when *in situ*, due to the parameters and situational variables involved in highly pressurised crisis scenarios. Research by van den Heuvel, Alison and Power (2014), for example, found that some strategic police officers chose to intentionally forestall and defer decision-making within a simulated hostage negotiation setting, in order to contingency plan for worst case scenarios. van den Heuvel et al.'s (2014) findings suggest that, to some extent, intentional avoidant decision making may prove to be a useful tool for strategic decision-makers within the hostage/crisis context; however, the authors suggest that this needs to be balanced with the importance of timely responses and decision-making by HCNs, to avoid aggravating subjects as a result of stalling or being perceived as not listening/amenable to the subject's demands or needs. One could speculate, for example, that intentionally deferring decision-making differs to the avoidant

decision-making style described by Scott and Bruce (1995) in this context, as it is used intentionally for the purpose of buying time, as opposed to controlling emotions by avoiding dealing with the issue at hand.

The findings relating to EI indicate that both police samples possess a significantly higher level of EI than students, further supporting previous research findings where higher levels of EI in police officers as compared to other occupational groups has been found (Bar-On et al., 2000). Within the current research, both police samples demonstrated significantly higher scores on the overall measure of EI and three of the specific EI facets (i.e. ESM, EMO and ESC). Police officers also scored significantly higher on ESA and HCNs scored significantly higher on ER than students. This finding is again reassuring when considered in line with the research indicating a positive correlation between EI and police performance, in a number of cross-cultural settings (Afolabi, Awosola & Omole, 2010; Al Ali et al., 2011; Lev, 2005); and the potential influence of EI on resilience and protection from the negative effects of stress (Armstrong et al., 2011; Salovey et al., 1999). Although the findings are reassuring with regards to confirmation that police officers within the UK demonstrate the use of self-reported emotionally intelligent behaviours at work to a greater extent than students, there is no evidence to suggest that HCNs are more adept at utilising emotionally intelligent behaviours than police officers generally. In addition to this, the HCN sample did not demonstrate higher levels of EI specifically relating to the awareness and management of other people's emotions, as originally predicted. This finding is particularly surprising and suggests that EI enhancement, particularly within the facets mentioned above, is a potential area of development and training for police HCNs, who often deal with individuals in crisis/emotional turmoil and, as such, need to be adept at identifying and managing such emotions.

Although the findings suggest that the police population possess higher levels of EI and suggest that EI is an important component within police work, it is difficult to identify whether EI is a construct that is enhanced as a result of police training and operational experience, or whether it is an existing construct that attracts individuals to the role of police work in the first place. Within the UK, EI is not currently utilised as a selection criterion; however, research indicates that the construct is important and predicts performance within international police settings (Afolabi et al., 2010; Al Ali et al., 2011; Lev, 2005). There is potential, therefore, for the development of EI-based psychometric testing to be incorporated within UK police selection procedures, if further research were conducted to confirm/establish the role of EI within police populations and to support predictive validity of a specific EI measure which could be utilised in this format.

EI enhancement/training for police officers is used within the United States of America (USA) and is accepted as a core component within policing (Saville, 2006) and findings indicate that such training has positive benefits within a number of contexts (Cherniss & Goleman, 2001; Ricca, 2003; Sala, 2001, 2006; Slaski & Cartwright, 2003). Chapman and Clarke (2002), for example, found that EI training resulted in lower levels of reported stress by officers and Ricca's (2003) study concluded that EI awareness training significantly reduced police officer burnout. In addition to this, findings from a study by Sala (2001) (not using a police population) suggest that EI training improved self-confidence, conflict management, communication and conscientiousness, factors that intuitively would be beneficial within negotiation contexts. These findings, therefore suggest that there is potential for similar application of EI training within police contexts in the UK.

There are a number of possible explanations for the lack of differences observed between the two police samples. On a macro level, it is important to consider that police officers who are trained to be HCNs tend to perform this role in addition to their day-to-day

role within the police force. This means that HCNs in the UK may not, in fact, spend a significant amount of time acting as operational HCNs. Further research is, therefore, warranted to explore whether individuals who work ‘full time’ as HCNs within law enforcement agencies (i.e., dedicated hostage and crisis negotiation units in the UK; the FBI) represent a more unique group characteristically than their non-negotiator counterparts. More specifically, it could be suggested that police officers (in a number of different roles) are constantly encountering crisis situations and having to utilise emotionally intelligent behaviours in order to resolve conflict and effectively manage the public. Police officers as a population, therefore, are trained to deal with pressurised situations and in how to deal with conflict and as such are likely to possess a certain level of EI in order to effectively analyse and respond to an infinite number of potential crisis/conflict situations. It could be proposed, therefore, that the majority of police officers demonstrate a higher level of EI than the general population (and students in the case of the current study) and that this baseline acts as a starting point, on which specific negotiation training can build. With reference to decision-making style, it could be argued that police officers utilise a typical style of decision-making that is functional for police work on a variety of levels (i.e., lower levels of dependent and avoidant decision-making) and do not need to adapt this when negotiating. It is, of course, impossible to decipher whether such decision-making styles are present prior to individuals joining the police, or whether they are adopted as a result of training and operational police work. This is an argument which is also debated heavily within the police personality literature.

The current study benefits from the inclusion of a control/comparison group as it enabled the researchers to obtain an understanding of HCN/police officer characteristics within the wider context of a non-police population. Despite the fairly robust sample size ($N = 438$), the findings are limited to some extent by the nature of the comparison sample.

Although students are frequently utilised within social psychological research, they represent a fairly homogenous group as they typically represent a much smaller age range and higher mean level of socio-economic status than the general population. In addition to this, there was a disparity in the mean age and ethnic background of the two police samples and the student sample, which may have influenced the findings. In particular, the police samples were disproportionately White British in ethnicity, and as such, comparisons between two ethnically homogenous samples and a more ethnically heterogeneous sample may have therefore introduced some form of bias. Such bias could potentially be avoided by conducting follow-up research utilising a matched-pairs design across all three samples in future. The choice of sampling strategy may also limit the findings to some extent, as the snowball sampling method adopted (whereby HCNs were asked to locate a non-negotiator colleague to complete the psychometric test battery) was not random and as such, may not have provided a truly representative 'control group' of police officers for comparison.

These limitations are further compounded, to some extent, by the results of the independent t-tests conducted with the norm data means. Although the GDMS results corroborate the differences observed between the police samples and students, comparisons using the EII norm data means failed to replicate this finding – which suggests that the police samples demonstrate a similar level of EI as the general public population utilised to validate the EII. Comparisons between the police officer groups and the student sample would, therefore, have been enhanced by the utilisation of a more representative control group and further research would benefit from the utilisation of a general population sample with a more similar mean age, ethnic background, education and socio-economic status to that of the police samples. In addition to this, it is difficult to directly compare current findings to those of previous research, as previously published studies have either not incorporated a comparison group/sample or have utilised different psychometrics to measure the constructs

in question. There are, of course, numerous different tools that have been developed to assess decision-making and EI and it is therefore often difficult to directly compare findings across studies utilising different methodologies and data collection tools.

Despite these limitations, the research benefits from a fairly large and robust sample size and from the range of officers (i.e. in terms of rank, role and length of service) included within the study. Many researchers investigating police practice tend to utilise participants from a single geographical force or region, whereas the current study has included both HCNs and officers from 21 forces within the UK, which equates to a representation of approximately 50% of the forces throughout the country. This breadth of coverage helps to provide a more generalisable picture of both HCNs and police officers in the UK and applies to both small/large and rural/metropolitan forces and constabularies. Future/follow-up research which adopts an even greater proportion of the total hostage and crisis negotiation population within the UK (~800) as a comparative group/sample may also provide a greater insight into these two police populations and a more robust conclusion in relation to whether differences do exist in relation to their decision-making style and levels of EI.

In light of the current findings, it is equally prudent to suggest that future research would benefit from a cross-cultural application, in order to establish whether the findings are unique to a UK HCN context. Partial replication of the current study (Young, 2016) has also recently been conducted within the USA with this intention in mind, to establish whether US HCNs present as a unique and homogenous group within the police population or exhibit different decision-making styles to their non-negotiator counterparts. One final salient point of note is to highlight that whilst the findings may suggest that differences exist in relation to the police officer samples (in comparison to the student sample), it remains to be established whether these differences directly translate into improved performance. Future research, therefore needs to explore the potential link between certain decision-making styles/higher

levels of EI and police performance in order to provide a potential model that could be utilised for police recruitment in the UK.

6.0. Conclusion

The findings from the current study suggest the need to reject the predicted existence of a unique 'HCN profile' but provide evidence to support the notion of a distinct 'police officer profile'. The findings indicate that police officers tend to utilise avoidant decision-making less and utilise significantly more emotionally intelligent behaviours than the non-police population, as demonstrated by a comparison sample of students in the current study. Whilst the current findings indicate a lack of support for the use of psychometric testing of certain constructs within the selection process for HCNs specifically, there is potential for the incorporation of specific psychometric testing within the selection of trainee police officers within the UK if further research is conducted to empirically validate such a procedure. Further research is also needed to explore the exact role of decision-making style and EI within the negotiation/conflict resolution process and to establish/verify the effectiveness of training to develop certain decision-making styles and facets of EI which may enhance police hostage negotiator/officer performance.

7.0. References

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8.0. Appendix A: Tables

Table I

Summary of the Means, Standard Deviations, T-Tests and Univariate ANOVA Results for Scores on the GDMS

Dependent variables	Cronbach alpha	Norm group (<i>N</i> = 400) [^]	HCNs (<i>n</i> = 117)		T-Test (norm*HCN)	Police officers (<i>n</i> = 118)		T-test (norm*PO)	Students (<i>n</i> = 203)		T-Test (norm*S)	Univariate ANOVA (Group)	
	α	<i>M</i>	<i>M</i>	<i>SD</i>	<i>t</i> (116)	<i>M</i>	<i>SD</i>	<i>t</i> (117)	<i>M</i>	<i>SD</i>	<i>t</i> (202)	<i>F</i>	η^2
												(2, 432)	
Intuitive (I)	.77	3.62	3.51	0.66	-1.72	3.54	0.67	-1.29	3.63	0.67	0.14	0.03	.00 ^S
Rational (R)	.70	3.50	3.92	0.43	10.48**	3.91	0.50	8.88**	3.88	0.65	8.33**	0.63	.00 ^S
Dependent (D)	.73	3.48	3.08	0.61	-7.01**	3.15	0.68	-5.36**	3.51	0.73	0.60	0.01	.02 ^S
Spontaneous (S)	.78	2.89	2.63	0.64	-4.30**	2.56	0.68	-5.27**	2.79	0.83	-1.67	0.46	.00 ^S
Avoidant (A)	.90	2.54	1.76	0.61	-13.61**	1.86	0.67	-11.13**	2.55	1.02	0.15	6.01*	.03 ^S

Note. Possible scores for each subscale ranged from a minimum of 1 to a maximum of 5. Superscript text = Effect Size (S = Small; M = Medium; L = Large). Adjusted probability level (Bonferroni) for ANOVAs = .05 / 5 = .01. Adjusted probability level (Bonferroni) for t-tests - .05 / 15 = .003.

*Statistically significant at the $p < .01$ level

**Statistically significant at the $p < .003$ level

[^]Norm data taken from Spicer & Sadler-Smith (2005)

η^2 = Partial eta squared

Table II

Summary of the Means, Standard Deviations, T-Tests and Univariate ANOVA Results for Scores on the EII

Dependent variables	Cronbach alpha	Norm data (N = 4775) [^] M	HCNs (n = 117) M SD		T-Test (norm*HCN) t (116)	Police officers (n = 118) M SD		T-Test (norm*PO) t (117)	Students (n = 203) M SD		T-Test (norm*S) t (202)	Univariate ANOVA (Group) F η^2 (2, 417)	
Emotional Self Awareness (ESA)	.77	41.94	41.60	4.08	-1.02	41.38	3.92	-1.32	38.19	5.19	-10.26**	5.43*	.0
Emotional Expression (EE)	.78	39.53	40.27	4.04	1.91	39.28	4.82	-0.34	35.86	5.17	-10.03**	5.00	.0
Emotional Awareness of Others (EAO)	.82	40.22	41.36	3.92	3.21	39.74	4.15	-1.18	37.04	5.22	-8.87**	4.94	.0
Emotional Reasoning (ER)	.73	39.29	39.24	4.18	0.00	37.34	4.37	-4.81**	34.24	4.49	-16.06**	5.88*	.0
Emotional Self-Management (ESM)	.71	38.36	38.50	3.84	0.21	37.82	4.29	-1.11	35.36	4.68	-9.14**	5.87*	.0
Emotional Management of Others (EMO)	.83	40.29	42.04	3.97	4.74**	40.47	4.22	0.73	36.67	5.15	-10.16**	8.97*	.0
Emotional Self-Control (ESC)	.72	39.51	40.25	3.89	2.16	39.42	4.20	0.08	36.78	5.23	-7.28**	6.33*	.0
Overall Emotional Intelligence (OEI)	.83	279.13	283.26	22.35	1.98	275.45	24.30	-1.63	254.14	28.68	-12.01**	8.78*	.0

Note. Minimum and maximum scores unavailable as scale scores were provided by test publisher and scoring algorithm is not publicly available. Superscript text = Effect Size (S =

Small; M = Medium; L = Large). Adjusted probability level (Bonferroni) for ANOVAs = .05 / 8 = .006. Adjusted probability level for t-tests = .05 / 24 = .002.

η^2 = Partial eta squared

*Statistically significant at the $p < .006$ level

**Statistically significant at the $p < .002$ level

[^]Data taken from Gignac (2008)

Table III

Inter-Correlation Matrices Depicting Correlations Between GDMS and EII Subscales for the HCN, Police Officer and Student Samples.

HCNs	I	R	D	S	A	ESA	EE	EAO	ER	ESM	EMO	ESC	OEI
I	1	-.149	.231*	.527**	.107	.068	.091	.044	.180	.045	.168	-.271**	.061
R		1	.112	-.204*	-.183*	.224*	.272**	.178	.322**	.327**	.195*	.229*	.314**
D			1	.026	.227*	-.032	-.049	-.058	.135	-.093	.027	-.149	-.037
S				1	.080	-.171	-.172	-.196*	-.140	-.020	-.013	-.233*	-.170
A					1	-.354**	-.355**	-.392**	-.250**	-.387**	-.338**	-.180	-.403**
ESA						1	.640**	.728**	.487**	.546**	.616**	.411**	.794**
EE							1	.701**	.536**	.714**	.665**	.468**	.846**
EAO								1	.594**	.623**	.778**	.472**	.876**
ER									1	.515**	.690**	.340**	.750**
ESM										1	.646**	.527**	.816**
EMO											1	.392**	.858**
ESC												1	.642**
OEI													1
Police Officers	I	R	D	S	A	ESA	EE	EAO	ER	ESM	EMO	ESC	OEI
I	1	-.165	.069	.525**	.125	.036	-.003	-.072	-.068	-.072	.118	-.095	-.033
R		1	.278**	-.390**	-.372**	.186*	.310**	.173	.317**	.277**	.221*	.444**	.318**
D			1	-.024	.165	-.035	-.002	-.047	.027	-.042	-.010	.062	-.024
S				1	.341**	-.186*	-.307**	-.194*	-.119	-.292**	-.150	-.278**	-.261**
A					1	-.318**	-.494**	-.285**	-.350**	-.500**	-.393**	-.405**	-.477**
ESA						1	.634**	.649**	.485**	.561**	.587**	.511**	.764**
EE							1	.655**	.537**	.774**	.658**	.594**	.855**
EAO								1	.694**	.598**	.647**	.490**	.832**
ER									1	.553**	.626**	.504**	.776**
ESM										1	.635**	.741**	.855**
EMO											1	.543**	.824**
ESC												1	.762**
OEI													1
Students	I	R	D	S	A	ESA	EE	EAO	ER	ESM	EMO	ESC	OEI
I	1	-.125	-.044	.401**	.093	.090	.083	.132	.000	.151*	.093	.056	.100
R		1	.186**	-.496**	-.381**	.361**	.431**	.382**	.465**	.383**	.388**	.283**	.481**
D			1	-.191**	.251**	-.076	.006	-.061	.026	-.157*	.032	-.094	-.063
S				1	.205**	-.187**	-.196**	-.133	-.171*	-.064	-.173*	-.146*	-.185*
A					1	-.292**	-.417**	-.364**	-.362**	-.367**	-.415**	-.344**	-.456**
ESA						1	.596**	.697**	.587**	.598**	.595**	.483**	.807**
EE							1	.703**	.626**	.666**	.722**	.513**	.847**
EAO								1	.736**	.595**	.781**	.456**	.871**
ER									1	.577**	.694**	.420**	.809**
ESM										1	.611**	.680**	.822**
EMO											1	.476**	.852**
ESC												1	.708**
OEI													1

Note. ** Significant at $p < .01$; * Significant at $p < .05$.

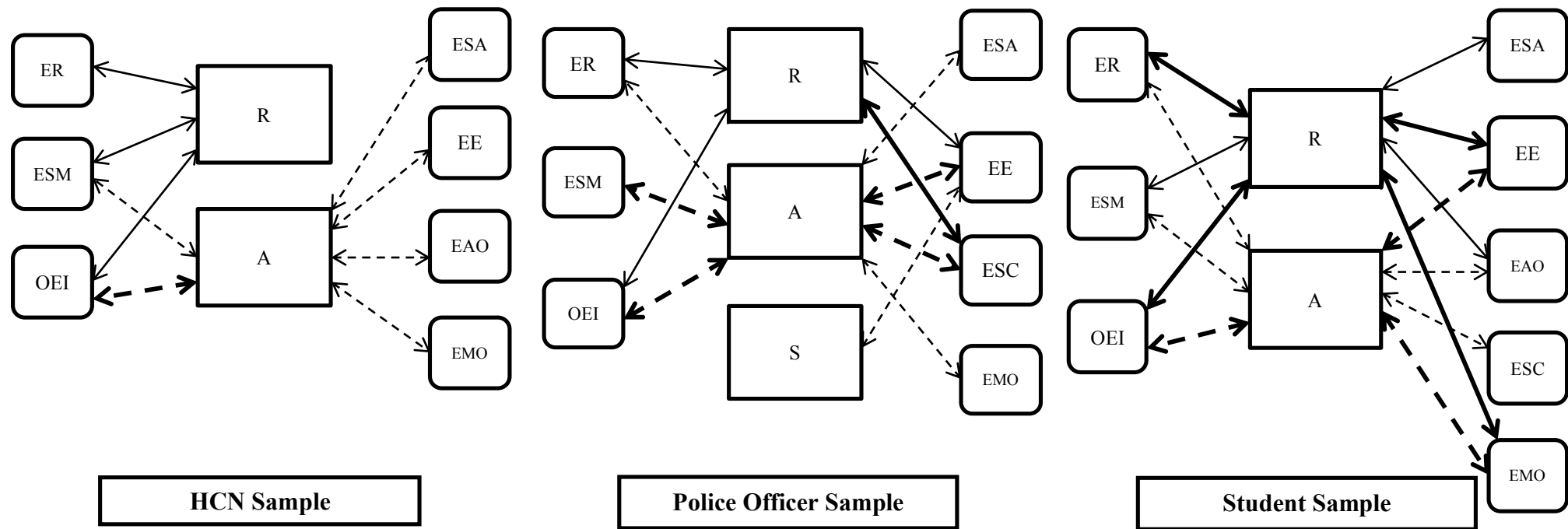


Figure I. Depiction of inter-correlations between GDMS and EII subscales for each of the three samples.

Note. Correlations significant at the $p < .03$ have been depicted. Strength of correlation is depicted by thickness of arrow (i.e. thicker arrows depict correlations where $p > .4$). Block arrows represent positive relationships between variables. Dashed arrows represent negative relationships between variables.